

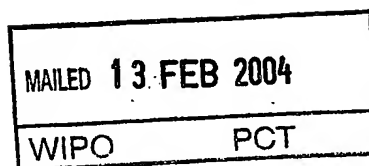
10/536979

PCT/IB 03 / 05397

05.01.04



INVESTOR IN PEOPLE



The Patent Office  
Concept House  
Cardiff Road  
Newport  
South Wales  
NP10 8QQ

I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

In accordance with the rules, the words "public limited company" may be replaced by p.l.c., plc, P.L.C. or PLC.

Re-registration under the Companies Act does not constitute a new legal entity but merely subjects the company to certain additional company law rules.

Signed

Dated

24 November 2003

**PRIORITY  
DOCUMENT**

SUBMITTED OR TRANSMITTED IN  
COMPLIANCE WITH RULE 17.1(a) OR (b)



1/77

# Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)



The Patent Office

Cardiff Road  
Newport  
South Wales  
NP10 8QQ

1. Your reference 02DEC02 E767560-13 000073  
P01/7700 0.00-0227938.8  
6.70.1044 UK

2. Patent application number 0227938.8  
(The Patent Office will fill in this part) 29 NOV 2002

3. Full name, address and postcode of the or of each applicant (underline all surnames)  
  
INTERBREW S.A.  
VARSTRAAT 94  
B-3000 LEUVEN  
BELGIUM  
  
Patents ADP number (if you know it) 7906536002  
  
If the applicant is a corporate body, give the country/state of its incorporation  
A BELGIAN CORPORATION

4. Title of the invention  
  
INTERLOCKING COLLAR FOR SECURING ALCOHOL CONTAINING BAG TO KEG CONTAINER

5. Name of your agent (if you have one)  
  
"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)  
  
G.F. REDFERN & CO.  
LYNN HOUSE  
IVY ARCH ROAD  
WORTHING  
WEST SUSSEX. BN14 8BX

Patents ADP number (if you know it) 8435356001 1412002

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number	Country	Priority application number (if you know it)	Date of filing (day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application	Number of earlier application	Date of filing (day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

a) any applicant named in part 3 is not an inventor, or

b) there is an inventor who is not named as an applicant, or

c) any named applicant is a corporate body.

See note (d))

YES

**Patents Form 1/77**

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

Continuation sheets of this form

Description

8

Claim(s)

4

Abstract

1

Drawing(s)

3

+ 3

SW.

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*)

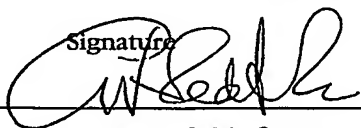
Request for substantive examination (*Patents Form 10/77*)

Any other documents  
(please specify)

11.

I/We request the grant of a patent on the basis of this application.

Signature



Date

29 November 2002

12. Name and daytime telephone number of person to contact in the United Kingdom

Mrs. S.M. Camp  
01903 820466

**Warning**

*After an application for a patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977. You will be informed if it is necessary to prohibit or restrict your invention in this way. Furthermore, if you live in the United Kingdom, Section 23 of the Patents Act 1977 stops you from applying for a patent abroad without first getting written permission from the Patent Office unless an application has been filed at least 6 weeks beforehand in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction has been revoked.*

**Notes**

- If you need help to fill in this form or you have any questions, please contact the Patent Office on 08459 500505.*
- Write your answers in capital letters using black ink or you may type them.*
- If there is not enough space for all the relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.*
- If you have answered 'Yes' Patents Form 7/77 will need to be filed.*
- Once you have filled in the form you must remember to sign and date it.*
- For details of the fee and ways to pay please contact the Patent Office.*

- 1 -

## INTERLOCKING COLLAR FOR SECURING ALCOHOL CONTAINING BAG TO KEG CONTAINER

### Field of the Invention

The present invention relates to an interlocking collar for securing an alcohol containing bag within a keg container.

### Background of the Invention

It is known to contain alcohol, such as wine, in bags contained in a cardboard type container. Further, it is known to use a bag inserted into a keg for storing beer in the bag. In the case of a beer keg, the bag is inserted into the keg container prior to the beer being filled into the bag. Once the bag is filled with beer, the bag is usually maintained under pressure to facilitate the dispensing of beer from the keg container. There is a need to provide an effective seal between the bag and the keg that is cost effective and resists explosive relief from the keg when the keg is pressurized.

### Summary of the Invention

It is an object of the present invention to provide a cost effective seal for securing a bag in a keg container such that the bag is self-

contained in the container during normal filling and dispensing of alcohol from the bag.

It is another object of the present invention to provide a seal for securing a bag in a keg container where the seal works well in conjunction with a simple embossed keg neck.

The present invention relates to an interlocking collar for mounting a bag neck in a keg aperture of an alcohol beverage keg container. The interlocking collar is mounted in press fit surrounding relation with a peripheral wall portion of the bag neck. The collar has an outer peripheral wall portion sized larger than that of a keg aperture. The collar has a recessed groove in the collar outer peripheral wall portion for receiving in press fitting and sealing relation a keg flange that defines the keg aperture. The collar outer peripheral wall portion has a resilient edge portion adjacent the recessed groove that deflects to permit the interlocking collar to pass through the keg aperture and receive the keg flange in the recessed groove.

The interlocking collar provides a cost effective seal for securing a bag in a keg container such that the bag is self-contained in the container during normal filling and dispensing of alcohol from the bag. Further, the seal works well with the simple flange aperture of the keg.

It is envisaged that the interlocking collar has a plurality of locking passageways placed around the interlocking collar and axially extending through the interlocking collar between the neck and recessed groove. The assembly further comprises a latch member with a plurality of locking fingers adapted to extend axially through the locking passageways to prevent deflection of the resilient edge portion of the interlocking collar after the collar is inserted in the keg aperture.

In accordance with an aspect of the present invention there is provided an alcohol beverage container assembly comprising a keg having a flange that defines a keg aperture. The container assembly comprises a bag contained in the keg for containing an alcohol beverage. The bag has a neck for supporting the bag in the keg. The neck has a peripheral wall portion sized less than that of the keg aperture. The neck has a central passageway extending into the bag that is adapted to receive a beverage filling and dispensing valve assembly. The container comprises an interlocking collar mounted in press fit surrounding relation with the peripheral wall portion of the neck. The collar has an outer peripheral wall portion sized larger than that of the keg aperture. The collar has a recessed groove in the collar outer peripheral wall portion for receiving the keg flange in press fitting and sealing relation therewith. The collar outer peripheral wall portion has a resilient edge portion adjacent the recessed groove that deflects to permit the interlocking collar to pass through the keg aperture and receive the keg flange in the recessed groove.

#### Brief Description of The Drawings

For a better understanding of the nature and objects of the present invention reference may be had to the accompanying diagrammatic drawings in which:

Figure 1 is a front elevation view of a home beer dispensing apparatus in accordance with the present invention;

Figure 2 is a side elevation view of the home beer dispensing apparatus;

Figure 3 is an exploded view of the valve, bag, and spear assembly for the alcohol container of the present invention;

Figure 4 is a side sectional view of the interconnecting collar and valve assembly; and,

Figures 5 to 8 are partial side sectional views showing the assembly of the bag, interlocking collar and latch member in the keg.

#### Detailed Description Of The Invention

Referring to Figures 1 and 2 there is shown a home beer dispensing apparatus, appliance or unit 10. The dispensing apparatus 10 is primarily intended for use in domestic kitchens but may also be used in utility rooms, garages, domestic bars, caravans etc. While the preferred embodiment relates to dispensing beer, alternatively carbonated solutions or other alcohol beverages may be dispensed by apparatus 10.

The home beer dispensing apparatus 10 has a front wall 12 and a dispensing tap 14 protruding forward of the front wall 12. A drip tray 16 also protrudes forward of the front wall 12 and is adapted to support an open glass container 18 below the dispensing tap 14. The home beer dispensing apparatus 10 further has a base 21 adapted to rest on a counter top. The front wall 12 is an extension of two pivoting side walls 20 which may be moved between closed and open positions to allow the keg 22 (see Figure 2 in broken lines) to be inserted into the housing of the home beer dispensing apparatus 10.

The housing of the home beer dispensing apparatus 10 further includes a top wall 24 and a rear wall 26. The rear wall 26 has a grill 30 that permits for air circulation within the home beer dispensing apparatus 10. An electrical cord 32 extends through the rear wall 26 of the apparatus 10 to provide a connection into a main electrical supply to supply electrical power to the electrical components housed within the unit 10. Alternatively, a 12 Volt DC supply input may be used.

The dispensing apparatus 10 has a cooling system 34 located behind and below keg 22 that is adapted to cool beer in keg 22 when keg 22 is placed into dispensing apparatus 10

Referring to Figures 3 to 8, there is shown the container assembly 39 of the present invention.

The container assembly 39 comprises a keg 22 having a simple embossed raised flange 40 that defines an aperture 42 (see Figure 7) having a first predetermined diameter D1 (see Figure 8).

Mounted or passed through the keg aperture 42 is a plastic bag 44. The plastic bag preferably comprises a polypropylene material. The bag 44 is contained in the keg 22 and is adapted for housing an alcoholic beverage which preferably is beer. The bag 44 has a rubber neck 46 that supports the bag 44 within the keg 22. The neck 46 has a peripheral wall portion 48 of a second predetermined diameter D2 which is less than the first predetermined diameter D1 of the keg aperture 42. The neck 46 has a central passageway 50 extending into the bag 44. Central passageway 50 is adapted to receive a valve body 52 (see Figure 4) which is utilized for filling the bag 44 with beverage and for dispensing from the bag 44 the alcohol beverage.

The valve body 52 has a first central beverage valve 54 which is connected in fluid communication to a hollow spear 56 which extends into the bag 44. The valve 54 is opened to permit the insertion of the beer into the bag. Further, valve 54 is open during the dispensing of beer through spear 56, and out through tap 14 (Figure 1). The valve body 52 further includes a second concentric valve 58 spaced radially out from the center valve 54. The second concentric valve 58 controls gas flow into the bag 44. Typically, a charging gas such as, for example, carbon



dioxide or nitrogen is used to inflate the bag 44 prior to the bag 44 being filled through valve 54 with beer.

The valve body 52 further includes a third valve 60 which is concentric to the second valve 58. The third valve 60 controls flow of air into keg 22 exterior of the bag 44 so as to provide an air pressure to the bag 44 that facilitates the dispensing of beer from bag 44. The air valve 60 is also used to allow air to escape the keg 22 when the bag 44 is being inflated with a charging gas through the second valve 58.

Referring to Figures 5 to 8, the peripheral outer wall portion 48 of neck 46 includes an out turned flange 62 from mounting the bag 44 to the neck 46. The neck has an inwardly tapering wall 64 that is axially spaced parallel to axis 100 adjacent the out turned flange 62. The neck 46 has a first recessed slot 66 that extends around the neck and is axially spaced adjacent the inwardly tapering wall 64. The neck 46 has a second recessed slot 68 that extends around the neck and is axially spaced adjacent the first recessed slot 66. As shown in the drawings, the second recessed slot 68 comprises a v-shaped recessed notch that has resilient tip portions 70.

The container assembly 39 further includes an interlocking collar 72 that is mounted in pressed fit surrounding relation with the peripheral wall portion 48 of the neck 40. As shown in Figure 6, the interlocking collar 72 is adapted to be received in the first recessed slot 66 of the neck 46 in pressed fit sealing relationship therewith. The collar 72 has an outer peripheral wall portion 74 having a third predetermined diameter  $D_3$  which is greater than the first predetermined diameter  $D_1$  of the keg flange 40. The collar 72 has a recessed groove 76 located in a collar outer peripheral wall portion 74. The recessed groove 76 receives the keg

flange 40 in pressed fitting relation therewith. The collar outer peripheral wall portion 74 has a resilient edge portion 78 adjacent the recess groove 74 that deflects to permit the interlocking collar 72 to pass through the keg aperture 42 to receive the keg flange 40 in the recessed groove 76 in pressed fitting and sealing relation therewith.

The interlocking collar 72 also has a plurality of locking passages 80 that are spaced around the interlocking collar 72 by a predetermined distance from axis 100. The locking passageways 80 extend axially through the interlocking collar 72 between the neck 46 and the recessed groove 76.

The container assembly 39 has a latch member 82 (see Figure 7) with a plurality of locking fingers 84 adapted to extend axially through the locking passageway 80 to prevent deflection of the resilient edge portion 78 of the interlocking collar 72.

The latch member 82 has a support base 86 from which the locking fingers 84 extend. The support base 86 has an inner aperture 88 that defines an inwardly directed flange 90 that is adapted to be received within the recessed slot 68. This flange 90 has a wedge shape that is adapted to be received in the v-notch shape of the second recessed slot 68 in a press fit, sealing and locking relationship therewith. The locking fingers 84 extend through the locking passageways 80. The locking fingers 84 have a lead in finger tip portion 92 that passes through the locking passageways 80 and are curved slightly outwardly. The finger tip portions 92 abut the tapered wall 64 of the neck 46 to be forced into locking engagement with the resilient edge portion 78 of the interlocking collar 72.

During normal assembly of the container 39, the interlocking collar

72 is inserted on the bag neck 46 as shown in Figure 6. Thereafter, the bag neck 46 is pushed into sealing engagement with the flange 40 of the keg 22 as shown in Figure 7. This is accomplished by the edge portion 78 of the collar 72 deflecting to permit the collar 72 to pass through the flange aperture or keg aperture 42 and the edge portion 78 springs back into place locking the flange 42 in the recessed groove 76 of the interlocking collar 72. Next, the latching member 82 has its locking fingers 84 pushed into corresponding locking passages 80 such that the inwardly directed flange 90 locks into the v-shaped notch recessed 68 thereby locking the locking member 82 relative to the interconnecting collar 72. Further, the locking finger tip portions 92 are forced outwardly by the tapering wall 64 of the bag neck 44 into engagement with the edge portion 78 and in particular a corner therefor. This prevents the edge portion 78 from being squeezed together and also prevents a pressure force build up within the keg 22 that may force the interconnecting collar 72 out from the keg aperture 42.

## WHAT IS CLAIMED IS:

## 1. An alcohol beverage container assembly comprising:

a keg having a flange that defines a keg aperture;

a bag contained in the keg for containing an alcohol beverage, the bag having a neck for supporting the bag in the keg, the neck having a peripheral wall portion sized less than that of the keg aperture, and the neck having a central passageway extending into the bag that is adapted to receive a beverage filling and dispensing valve assembly; and,

an interlocking collar mounted in press fit surrounding relation with the peripheral wall portion of the neck, the collar having an outer peripheral wall portion sized larger than that of the keg aperture, the collar having a recessed groove in the collar outer peripheral wall portion for receiving the keg flange in press fitting and sealing relation therewith, and the collar outer peripheral wall portion having a resilient edge portion adjacent the recessed groove that deflects to permit the interlocking collar to pass through the keg aperture and receive the keg flange in the recessed groove.

2. The container assembly of claim 1 wherein the interlocking collar has a plurality of locking passageways placed around the interlocking collar and axially extending through the interlocking collar between the neck and recessed groove, and the container assembly having a latch member with a plurality of locking fingers adapted to extend axially through the locking passageways to prevent deflection of the resilient edge portion of the interlocking collar.

## 3. The container assembly of claim 2 wherein:

the peripheral outer wall portion of the neck comprises an out-turned flange for mounting the bag thereto, the neck has an inwardly

tapering wall axially spaced adjacent the out-turned flange, a first recessed slot extending around the neck and axially spaced adjacent the inwardly tapering wall, and a second recessed slot extending around the neck and axially spaced adjacent the first recessed slot;

wherein the interlocking collar is received in the first recessed slot of the neck in press fit sealing relation therewith; and

the latch member has a support base having an inner aperture defining an inwardly directed flange received in the second recessed slot of the neck in press fit, sealing, and locking relation therewith, and the locking fingers extend axially from the support base, and each locking finger has a lead-in finger tip portion that curves outwardly and abuts the tapered wall of the neck to be forced into locking engagement with the resilient edge portion of the interlocking collar

---

4. The container assembly of claim 3 wherein the second recessed slot comprises a v-shaped recessed notch.

5. The container assembly of claim 1 wherein the keg flange is raised.

6. An alcohol beverage container assembly comprising:

a keg having a flange that defines an aperture of first predetermined diameter;

a bag contained in the keg for containing an alcohol beverage, the bag having a neck for supporting the bag in the keg, the neck having a peripheral wall portion of a second predetermined diameter less than the first predetermined diameter of the keg aperture, and the neck having a central passageway extending into the bag that is adapted to receive a valve body for beverage filling and dispensing the alcohol beverage into and out from the bag; and,

an interlocking collar mounted in press fit surrounding relation with the peripheral wall portion of the neck, the collar having an outer peripheral wall portion having a third predetermined diameter greater than the first predetermined diameter of the keg flange, the collar having a recessed groove in the collar outer peripheral wall portion for receiving the keg flange in press fitting relation therewith, and the collar outer peripheral wall portion having a resilient edge portion adjacent the recessed groove that deflects to permit the interlocking collar to pass through the keg aperture to receive the keg flange in the recessed groove in press fitting and sealing relation.

7. The container assembly of claim 6 wherein the interlocking collar has a plurality of locking passageways placed around the interlocking collar and axially extending through the interlocking collar between the neck and recessed groove, and the container assembly having a latch member with a plurality of locking fingers adapted to extend axially through the locking passageways to prevent deflection of the resilient edge portion of the interlocking collar.

8. The container assembly of claim 7 wherein:

the peripheral outer wall portion of the neck comprises an out-turned flange for mounting the bag thereto, the neck has an inwardly tapering wall axially spaced adjacent the out-turned flange, a first recessed slot extending around the neck and axially spaced adjacent the inwardly tapering wall, and a second recessed slot extending around the neck and axially spaced adjacent the first recessed slot;

wherein the interlocking collar is received in the first recessed slot of the neck in press fit sealing relation therewith; and

the latch member has a support base having an inner aperture

defining an inwardly directed flange received in the second recessed slot of the neck in press fit, sealing, and locking relation therewith, and the locking fingers extend axially from the support base, and each locking finger has a lead-in finger tip portion that curves outwardly and abuts the tapered wall of the neck to be forced into locking engagement with the resilient edge portion of the interlocking collar

9. The container assembly of claim 8 wherein the second recessed slot comprises a v-shaped recessed notch.

10. The container assembly of claim 6 wherein the keg flange is raised.

---

INTERLOCKING COLLAR FOR SECURING ALCHOL  
CONTAINING BAG TO KEG CONTAINER

ABSTRACT

An interlocking collar secures a bag neck in a keg aperture of an alcohol beverage keg container. The interlocking collar is mounted in press fit surrounding relation with a peripheral wall portion of the bag neck. The collar has an outer peripheral wall portion sized larger than that of a keg aperture. The collar has a recessed groove in the collar outer peripheral wall portion for receiving in press fitting and sealing relation a keg flange that defines the keg aperture. The collar outer peripheral wall portion has a resilient edge portion adjacent the recessed groove that deflects to permit the interlocking collar to pass through the keg aperture and receive the keg flange in the recessed groove. The interlocking collar has a plurality of locking passageways placed around the interlocking collar and axially extending through the interlocking collar between the neck and recessed grove. A latch member has a plurality of locking fingers that extend axially though the locking passageways to prevent deflection of the resilient edge portion of the interlocking collar after the collar is placed in the keg aperture.





7  
1  
9  
8



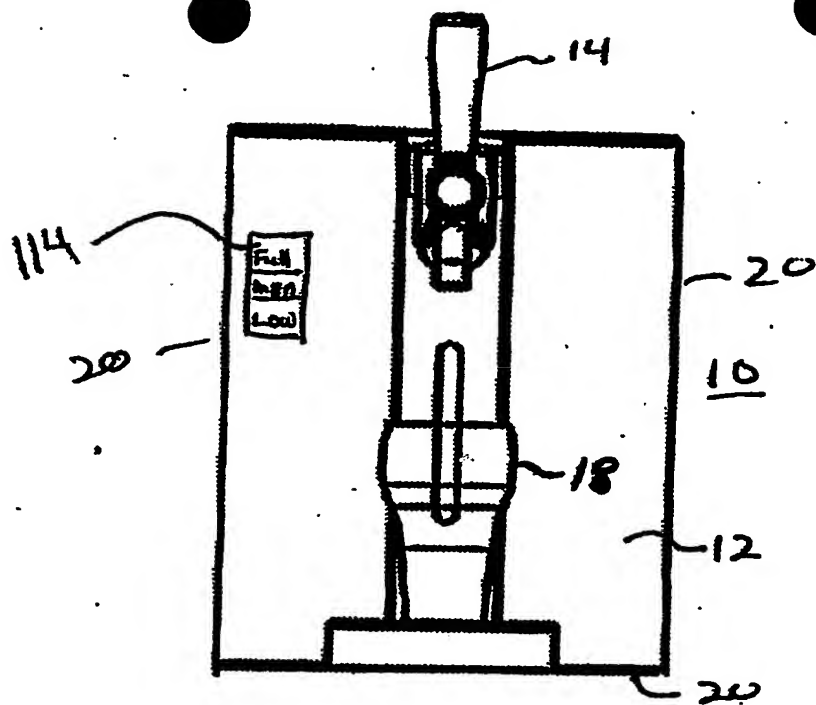


FIG. 1

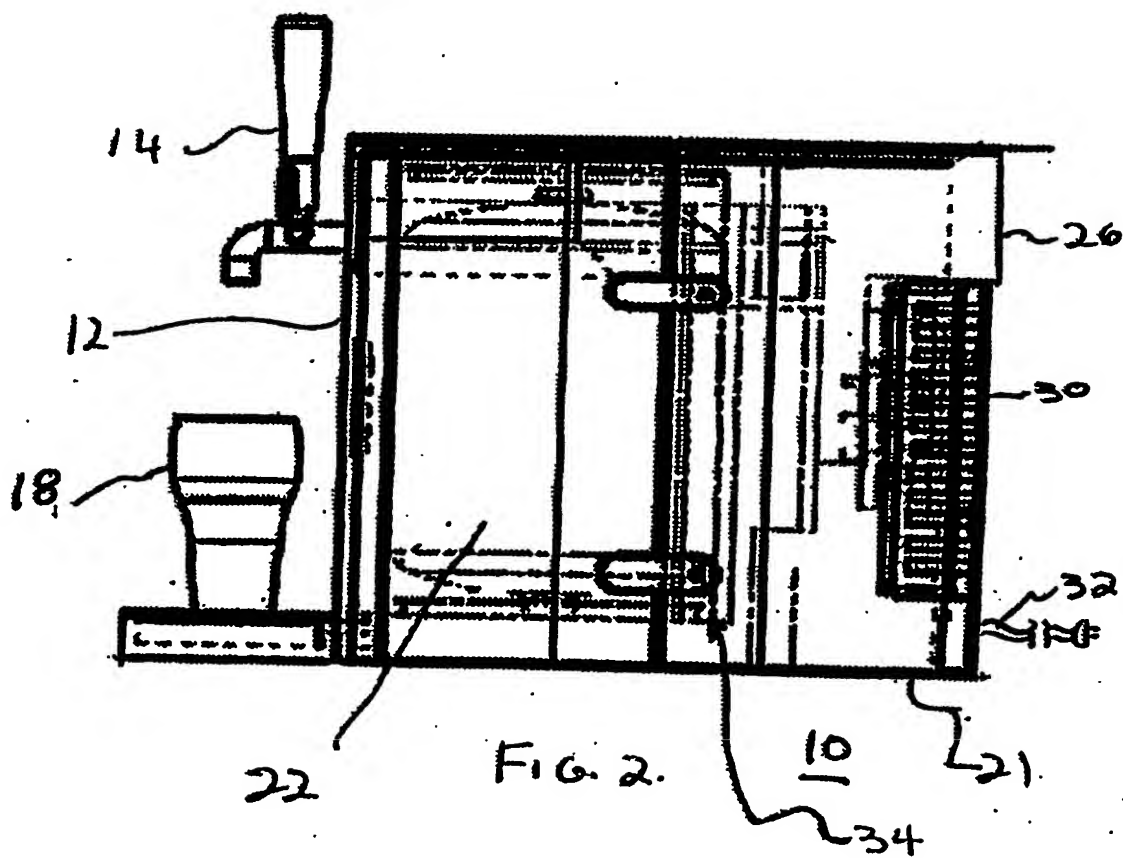
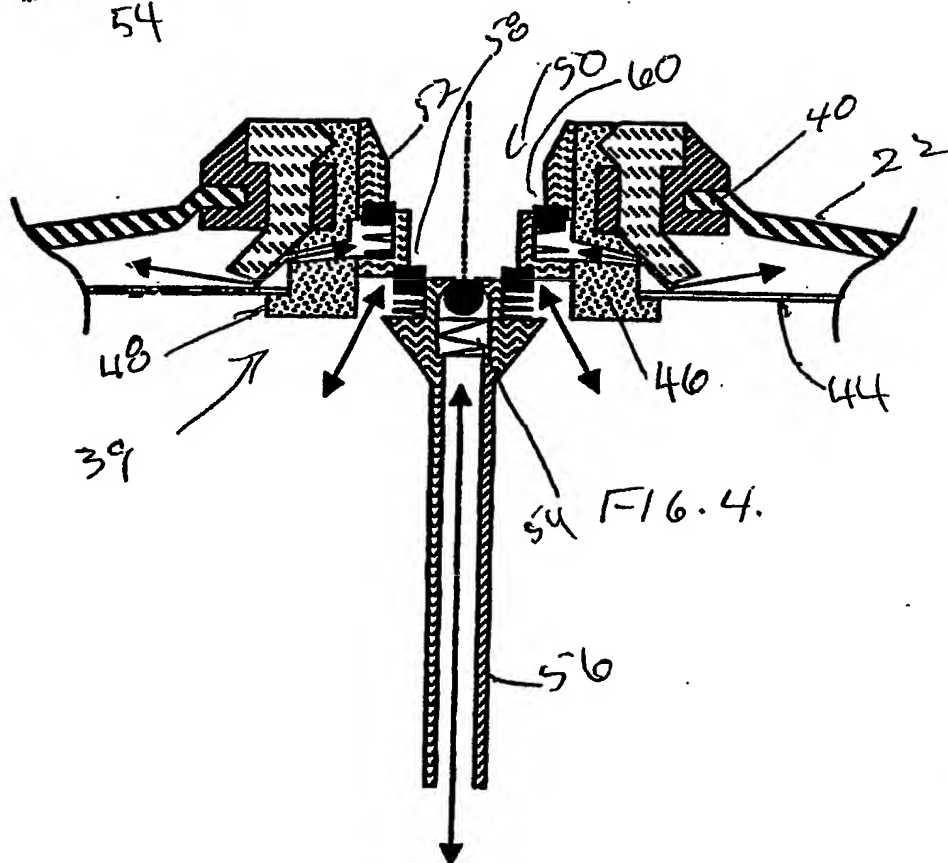
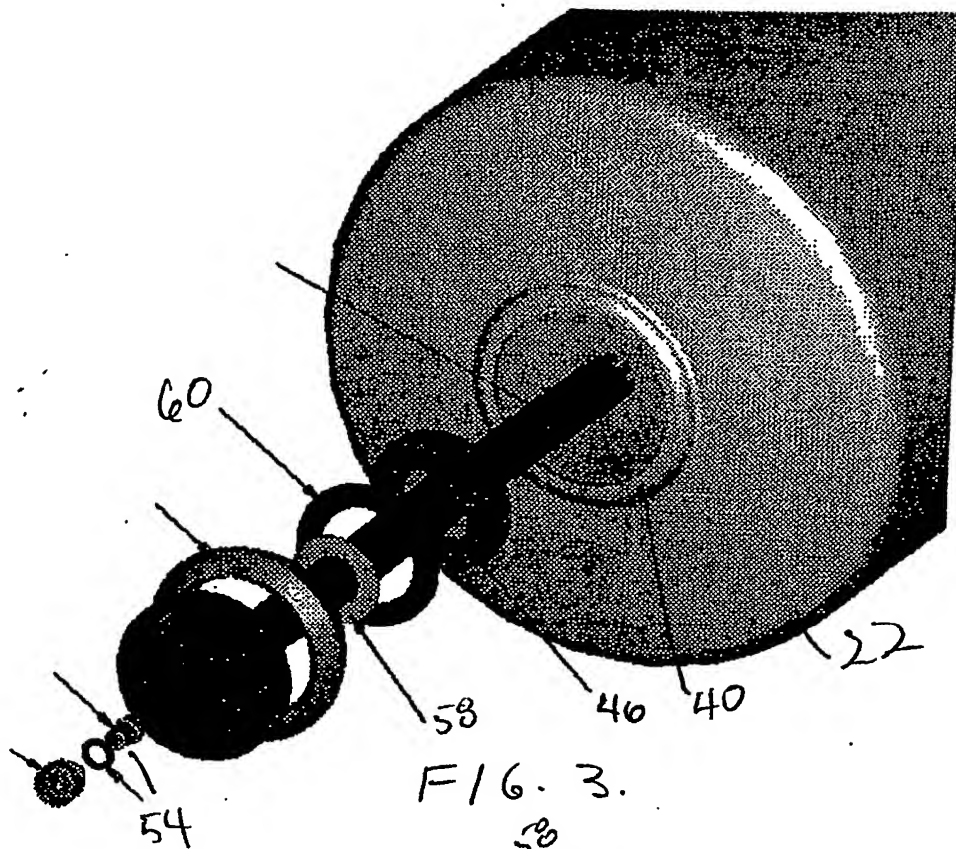
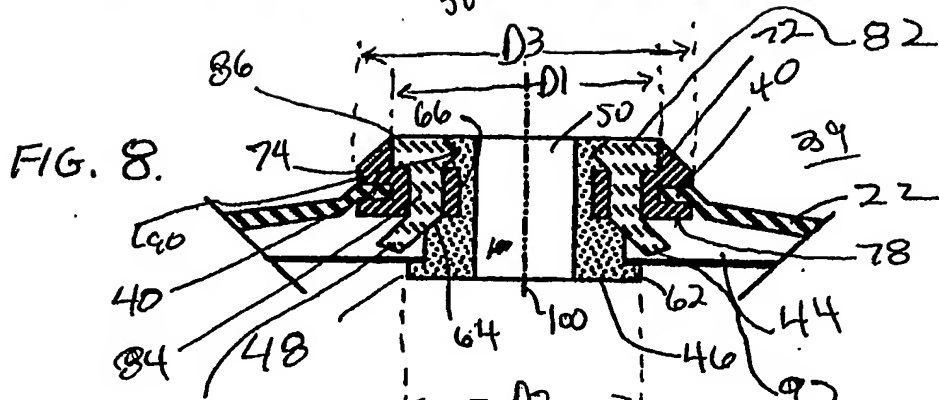
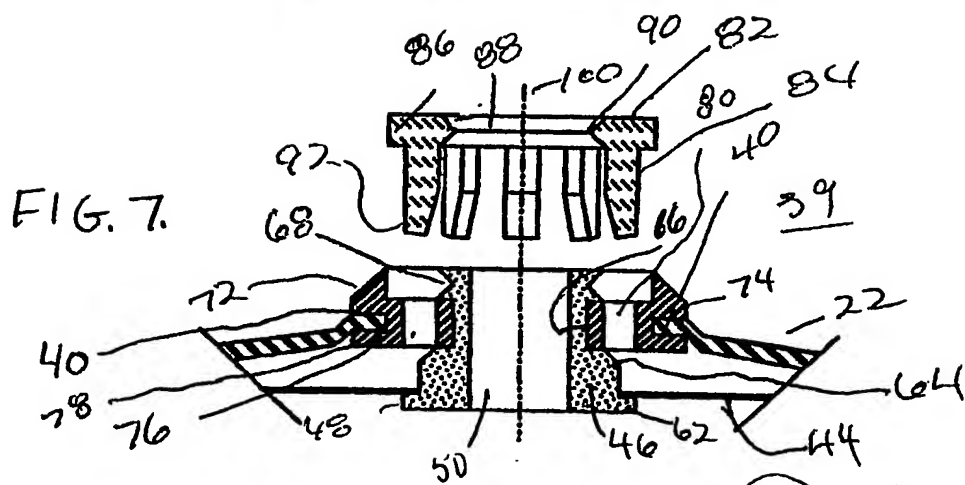
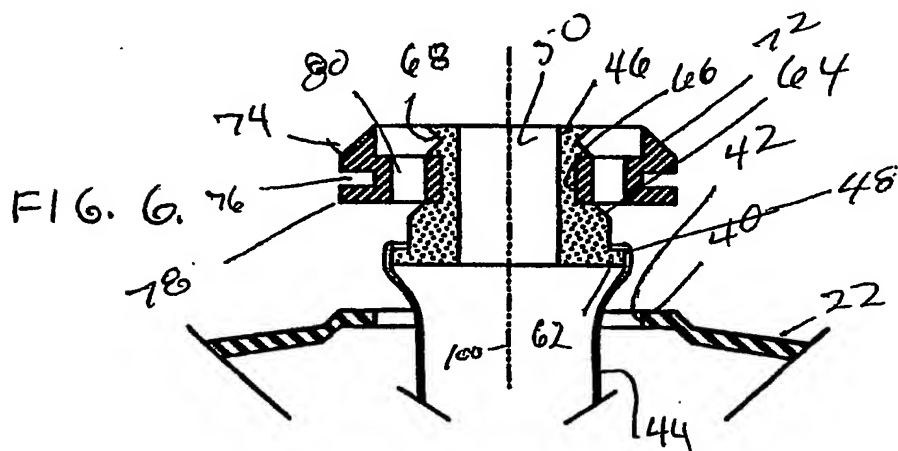
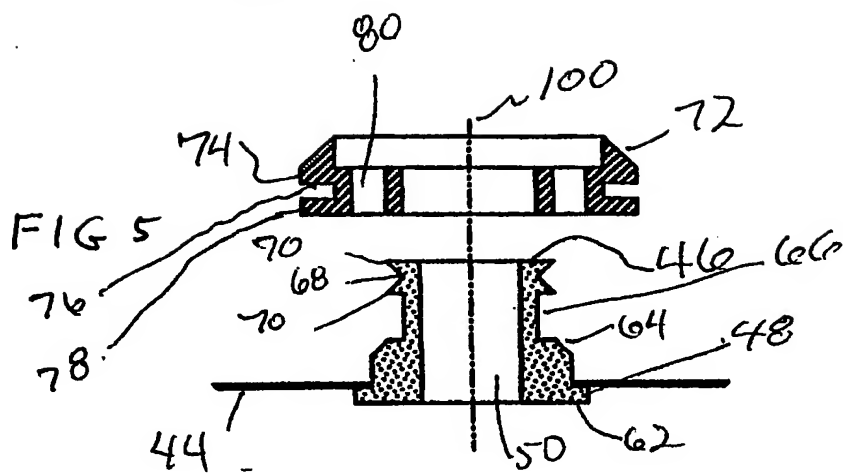


FIG. 2.





PCT Application  
**IB0305397**

